IN THE CLAIMS

1.   (Previously Presented) A method for ordering data transferred over multiple channels, comprising:

generating a data packet in response to a first flow control credit;

generating a first sequence number;

inserting the first sequence number into the data packet;

selecting one of a plurality of channels to transfer the data packet;

transferring the data packet over the selected one of the plurality of channels;

transferring a subsequent data packet generated in response to a second flow control credit over a different one of the plurality of channels, the subsequent data packet including a second sequence number.

2.   (Original) The method of Claim 1, further comprising:

incrementing the sequence number in response to transfer of the data packet.

3.   (Original) The method of Claim 1, further comprising:

decrementing a number of flow control credits in response to transfer of the data packet.

4.   (Original) The method of Claim 3, further comprising:

receiving a reply, the reply including a flow control credit;

incrementing a number of flow control credits in response to receipt of the reply.

5.   (Original) The method of Claim 1, further comprising:
resetting the sequence number to an initial value.

6.   (Previously Presented) A system for ordering data
transferred over multiple channels, comprising:

a sequence number unit operable to generate a first
sequence number;

a request channel controller operable to receive a data
packet in response to a first flow control credit, the request
channel controller operable to insert the first sequence
number into the data packet, the request channel controller
operable to select one of a plurality of request channels, the
request channel controller operable to transfer the data
packet over the selected one of the plurality of request
channels, the request channel controller operable to receive a
subsequent data packet in response to a second flow control
credit, the request channel controller operable to insert a
second sequence number into the subsequent data packet, the
request channel controller operable to select a different one
of the plurality of request channels, the request channel
controller operable to transfer the subsequent data packet
over the different one of the plurality of request channels.

7.   (Original) The system of Claim 6, wherein the request
channel controller is operable to generate an increment
signal, the sequence number unit operable to advance the
sequence number in response to the increment signal.

8.   (Original) The system of Claim 6, further comprising:
a credit counter unit operable to maintain a number of
flow control credits.

9.   (Original) The system of Claim 8, wherein the request channel controller is operable to generate a decrement signal, the credit counter unit operable to reduce the number of flow control credits in response to the decrement signal.

10.   (Original) The system of Claim 8, wherein the credit counter unit is operable to increment the number of flow control credits in response to receipt of a reply including a flow control credit.

11.   (Previously Presented) A method for ordering data transferred over multiple channels, comprising:
    receiving a plurality of data packets over different ones of a plurality of channels, each data packet including a sequence number, the plurality of packets being received in a non-sequential order;
    storing each of the plurality of data packets in a buffer according to its sequence number;
    reading the plurality of data packets in sequential order from the buffer according to the sequence numbers;
    generating a flow control credit in response to each of the plurality of data packets being read from the buffer.

12.   (Original) The method of Claim 11, further comprising:
    setting a valid bit in response to a data packet being stored in a portion of the buffer associated with the valid bit.

13.   (Original)   The   method   of   Claim   12,   further
comprising:

reading a data packet from the buffer in response to the
valid bit;

clearing the valid bit in response to a data packet being
read from the associated portion of the buffer.

14.   (Original)   The   method   of   Claim   11,   wherein   the
sequence number is used to directly index into the buffer.

15.   (Previously Presented) A system for ordering data
transferred over multiple channels, comprising:

a write port controller operable to receive a plurality
of data packets in a non-sequential order over different ones
of a plurality of channels, each data packet including a
sequence number;

a re-order buffer operable to store the plurality of data
packets, the write port controller operable to place each data
packet into the re-order buffer in response to its sequence
number;

a valid bit unit operable to generate a valid bit for
each portion of the re-order buffer, the valid bit unit
operable to set a valid bit for a corresponding portion of the
re-order buffer in response to a data packet being stored
therein;

a read port controller operable to provide data packets
in a sequential order in response to a valid bit being set.

16. (Original) The system of Claim 15, wherein the read port controller is operable to generate a flow control credit in response to providing a data packet from the re-order buffer.

17. (Original) The system of Claim 15, wherein the read port controller is operable to clear the valid bit upon providing a data packet from the re-order buffer.

18. (Original) The system of Claim 15, wherein the write port controller uses the sequence numbers to directly index the re-order buffer.